

06/06/01  
JCS45 U.S. PTO

06-07-01

A

Please type a plus sign (+) inside this box ☐

Approved for use through 10/31/2002. OMB 0651-0032  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE  
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

# UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No. MFS-31565-1  
First Inventor Keys, Andrew S.  
Title Phase Modulator w/Terahertz Optical  
Bandwidth Formed by Multi-Layered  
Express Mail Label No. EK828574598US

## APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

1. ☒ Fee Transmittal Form (e.g., PTO/SB/17)  
(Submit an original and a duplicate for fee processing)
2. ☐ Applicant claims small entity status.  
See 37 CFR 1.27.
3. ☒ Specification [Total Pages 30]  
(preferred arrangement set forth below)
  - Descriptive title of the invention
  - Cross Reference to Related Applications
  - Statement Regarding Fed sponsored R & D
  - Reference to sequence listing, a table, or a computer program listing appendix
  - Background of the Invention
  - Brief Summary of the Invention
  - Brief Description of the Drawings (if filed)
  - Detailed Description
  - Claim(s)
  - Abstract of the Disclosure
4. ☒ Drawing(s) (35 U.S.C. 113) [Total Sheets 1]
5. Oath or Declaration [Total Pages 2]
  - a. ☒ Newly executed (original or copy)  
Copy from a prior application (37 CFR 1.63 (d))
  - b. ☐ (for continuation/divisional with Box 18 completed)
    - i. ☐ **DELETION OF INVENTOR(S)**  
Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
6. ☐ Application Data Sheet. See 37 CFR 1.76

ADDRESS TO: Assistant Commissioner for Patents  
Box Patent Application  
Washington, DC 20231

7. ☐ CD-ROM or CD-R in duplicate, large table or Computer Program (Appendix)
8. Nucleotide and/or Amino Acid Sequence Submission (if applicable, all necessary)
  - a. ☐ Computer Readable Form (CRF)
  - b. Specification Sequence Listing on:
    - i. ☐ CD-ROM or CD-R (2 copies); or
    - ii. ☐ paper
  - c. ☐ Statements verifying identity of above copies

## ACCOMPANYING APPLICATION PARTS

9. ☒ Assignment Papers (cover sheet & document(s))
10. ☐ 37 CFR 3.73(b) Statement (when there is an assignee) ☒ Power of Attorney
11. ☐ English Translation Document (if applicable)
12. ☒ Information Disclosure Statement (IDS)/PTO-449 ☒ Copies of IDS Citations
13. ☐ Preliminary Amendment
14. ☒ Return Receipt Postcard (MPEP 503) (Should be specifically itemized)
15. ☐ Certified Copy of Priority Document(s) (if foreign priority is claimed)
16. ☐ Nonpublication Request under 35 U.S.C. 122 (b)(2)(B)(i). Applicant must attach form PTO/SB/35 or its equivalent.
17. ☐ Other: \_\_\_\_\_

18. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in a preliminary amendment, or in an Application Data Sheet under 37 CFR 1.76:

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No. \_\_\_\_\_

Prior application information: Examiner \_\_\_\_\_ Group Art Unit: \_\_\_\_\_

For CONTINUATION OR DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

## 19. CORRESPONDENCE ADDRESS

<input type="checkbox"/> Customer Number or Bar Code Label	(Insert Customer No. or Attach bar code label here)			or <input checked="" type="checkbox"/> Correspondence address below
Name	James J. McGroary			
Address	NASA/Mashall Space Flight Center			
Address	LS01/Office of Chief Counsel			
City	Huntsville	State	AL	Zip Code 35812
Country	USA	Telephone	256-544-0013	Fax 256-544-0258

Name (Print/Type)	James J. McGroary	Registration No. (Attorney/Agent)	38,960
Signature	Date		6/6/01

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THE CHIEF INFORMATION OFFICER, U.S. Patent and Trademark Office, Washington, DC 20231.

I hereby certify that this correspondence is being deposited with the United States Postal Service as Express Mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231 on the date of signature below.

Date: 6/6/01 Signature: Lisa R. Hughes

09/07/2001 16:06:01

PTO/SB/05 (03-01)  
10/06/90

RECEIVED  
JUN 12 2001  
PTO/STP

# CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as Express Mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231 on the date of signature below.

Date: 6-6-01 Signature: Lisa R. Hughes  
Express Mail 828574598US

PTO/SB/17 (11-00)

Approved for use through 10/31/2002. OMB 0651-0032  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

## FEE TRANSMITTAL for FY 2001

*Patent fees are subject to annual revision.*

**TOTAL AMOUNT OF PAYMENT** (\$)930.00

### Complete if Known

Application Number	
Filing Date	
First Named Inventor	Keys, Andrew S.
Examiner Name	
Group Art Unit	
Attorney Docket No.	MFS-31565-1

### METHOD OF PAYMENT

1. ☒ The Commissioner is hereby authorized to charge indicated fees and credit any overpayments to:

Deposit Account Number 14-0116  
Deposit Account Name NASA

☒ Charge Any Additional Fee Required Under 37 CFR 1.16 and 1.17

☐ Applicant claims small entity status. See 37 CFR 1.27

2. ☐ Payment Enclosed:

☐ Check ☐ Credit card ☐ Money Order ☐ Other

### FEE CALCULATION

#### 1. BASIC FILING FEE

	Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
101	710	201 355	Utility filing fee	<u>710.00</u>
106	320	206 160	Design filing fee	
107	490	207 245	Plant filing fee	
108	710	208 355	Reissue filing fee	
114	150	214 75	Provisional filing fee	

**SUBTOTAL (1)** (\$)710.00

#### 2. EXTRA CLAIM FEES

Total Claims 18 -20\*\* = 0 x 18 = 0  
Independent Claims 2 -3\*\* = 0 x 80 = 0  
Multiple Dependent            =           

	Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
103	18	203 9	Claims in excess of 20	
102	80	202 40	Independent claims in excess of 3	
104	270	204 135	Multiple dependent claim, if not paid	
109	80	209 40	** Reissue independent claims over original patent	
110	18	210 9	** Reissue claims in excess of 20 and over original patent	

**SUBTOTAL (2)** (\$)-0-

\*\*or number previously paid, if greater; For Reissues, see above

### FEE CALCULATION (continued)

#### 3. ADDITIONAL FEES

	Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
105	130	205 65	Surcharge - late filing fee or oath	
127	50	227 25	Surcharge - late provisional filing fee or cover sheet	
139	130	139 130	Non-English specification	
147	2,520	147 2,520	For filing a request for ex parte reexamination	
112	920*	112 920*	Requesting publication of SIR prior to Examiner action	
113	1,840*	113 1,840*	Requesting publication of SIR after Examiner action	
115	110	215 55	Extension for reply within first month	
116	390	216 195	Extension for reply within second month	
117	890	217 445	Extension for reply within third month	
118	1,390	218 695	Extension for reply within fourth month	
128	1,890	228 945	Extension for reply within fifth month	
119	310	219 155	Notice of Appeal	
120	310	220 155	Filing a brief in support of an appeal	
121	270	221 135	Request for oral hearing	
138	1,510	138 1,510	Petition to institute a public use proceeding	
140	110	240 55	Petition to revive - unavoidable	
141	1,240	241 620	Petition to revive - unintentional	
142	1,240	242 620	Utility issue fee (or reissue)	
143	440	243 220	Design issue fee	
144	600	244 300	Plant issue fee	
122	130	122 130	Petitions to the Commissioner	
123	50	123 50	Processing fee under 37 CFR 1.17(q)	
126	180	126 180	Submission of Information Disclosure Stmt	<u>180.00</u>
581	40	581 40	Recording each patent assignment per property (times number of properties)	<u>40.00</u>
146	710	246 355	Filing a submission after final rejection (37 CFR § 1.129(a))	
149	710	249 355	For each additional invention to be examined (37 CFR § 1.129(b))	
179	710	279 355	Request for Continued Examination (RCE)	
169	900	169 900	Request for expedited examination of a design application	

Other fee (specify) \_\_\_\_\_

\*Reduced by Basic Filing Fee Paid

**SUBTOTAL (3)** (\$)220.00

### SUBMITTED BY

Name (Print/Type)	James J. McGroary	Registration No. (Attorney/Agent)	38,960
Signature		Telephone	256-544-0013
		Date	6/6/01

### Complete (if applicable)

**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.